Chapter 3

Data Management: Data, Databases and Warehousing

Information Technology For Management 6th Edition
Turban, Leidner, McLean, Wetherbe
Lecture Slides by L. Beaubien, Providence College

John Wiley & Sons, Inc.

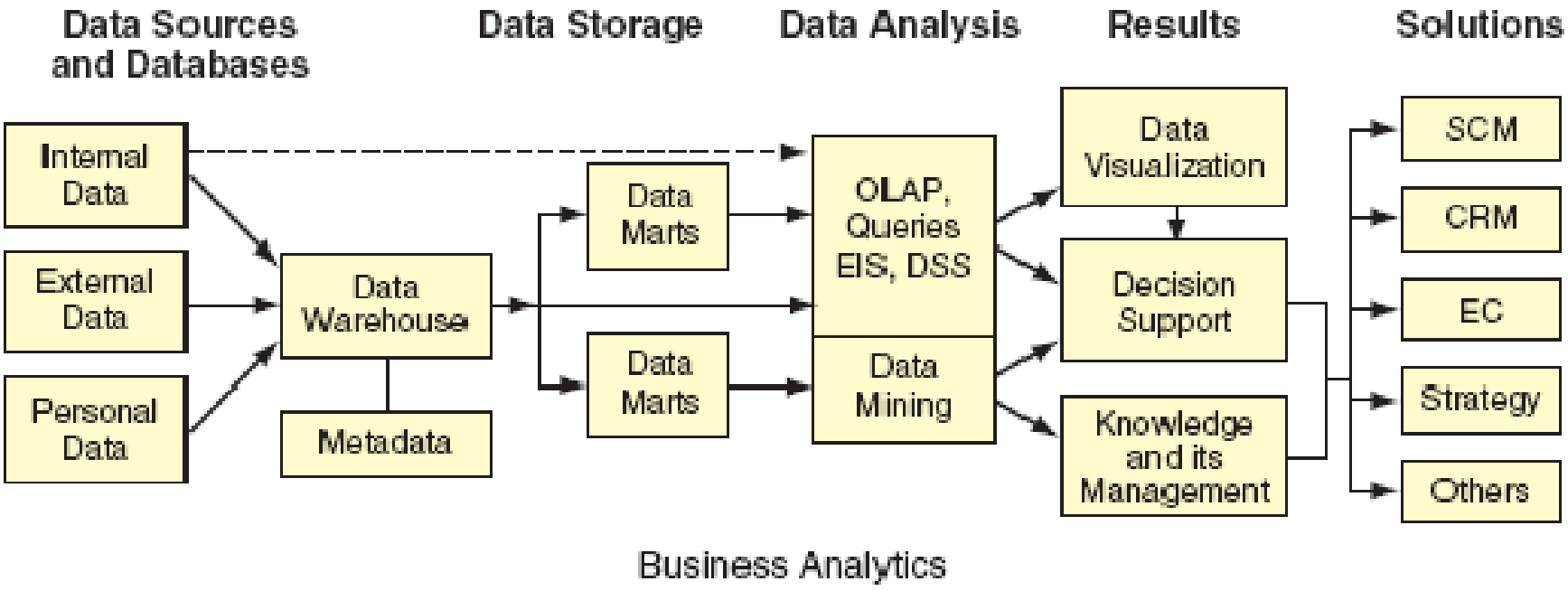
Learning Objectives

- Recognize the importance of data, managerial issues, and life cycle
- Describe sources of data, collection, and quality
- Describe DMS
- Describe Data Warehousing and Analytical Processing
- Describe DBMS (benefits and issues)

Learning Objectives (Continued)

- Understand conceptual, logical, and physical data
- Understand ERD
- The importance of Marketing
- The Internet and Data Management

Data Life Cycle Process



Transactional vs. Analytical Data Processing

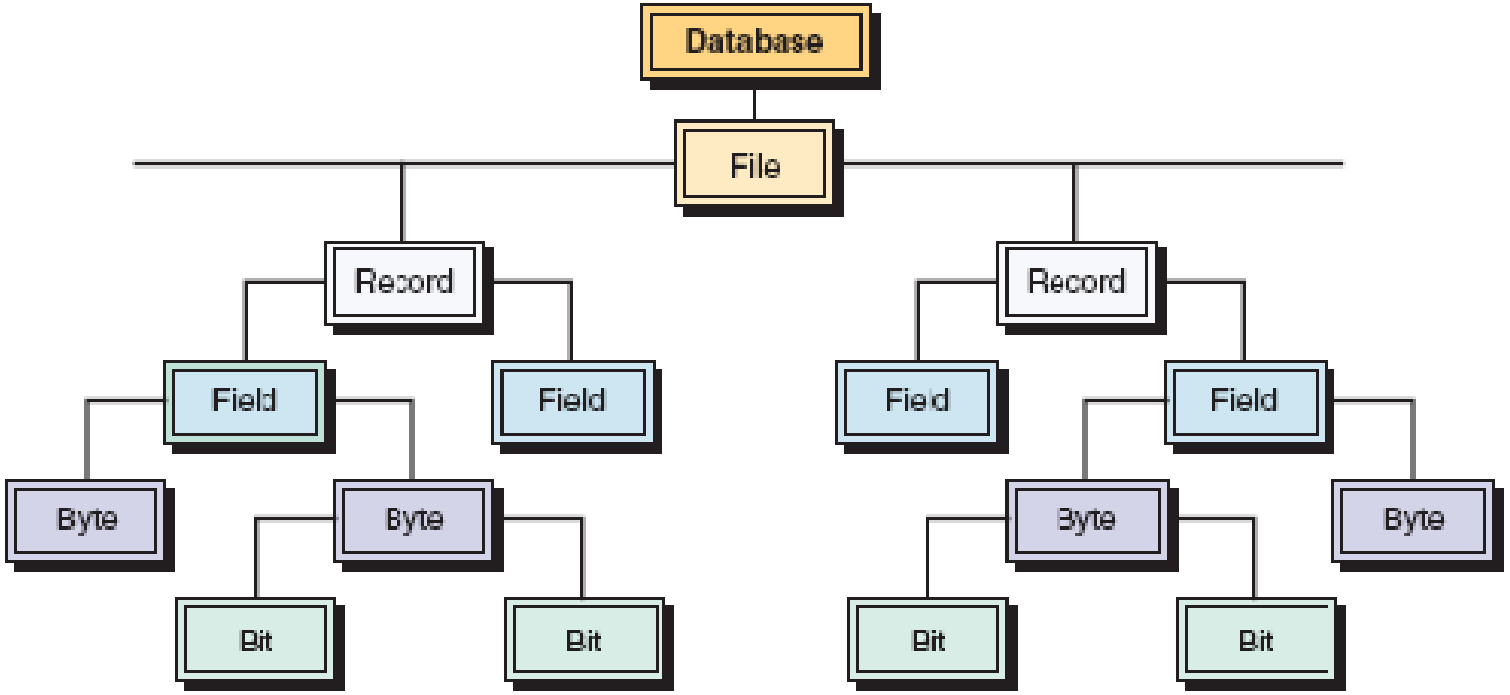
- **Transactional processing** takes place in operational systems (TPS) that provide the organization with the capability to perform business transactions and produce transaction reports. The data are organized mainly in a *hierarchical structure* and are centrally processed. This is done primarily for fast and efficient processing of routine, repetitive data.

- Supplementary activity to transaction processing is called **analytical processing,** which involves the analysis of accumulated data. Analytical processing, sometimes referred to as *business intelligence*, includes data mining, decision support systems (DSS), querying, and other analysis activities. These analyses place strategic information in the hands of decision makers to enhance productivity and make better decisions, leading to greater competitive advantage.

Forms for Modeling Data (ERD)

- Entities
- Attributes
- Relations

Hierarchy of Data



Hierarchy of Data (cont'd)

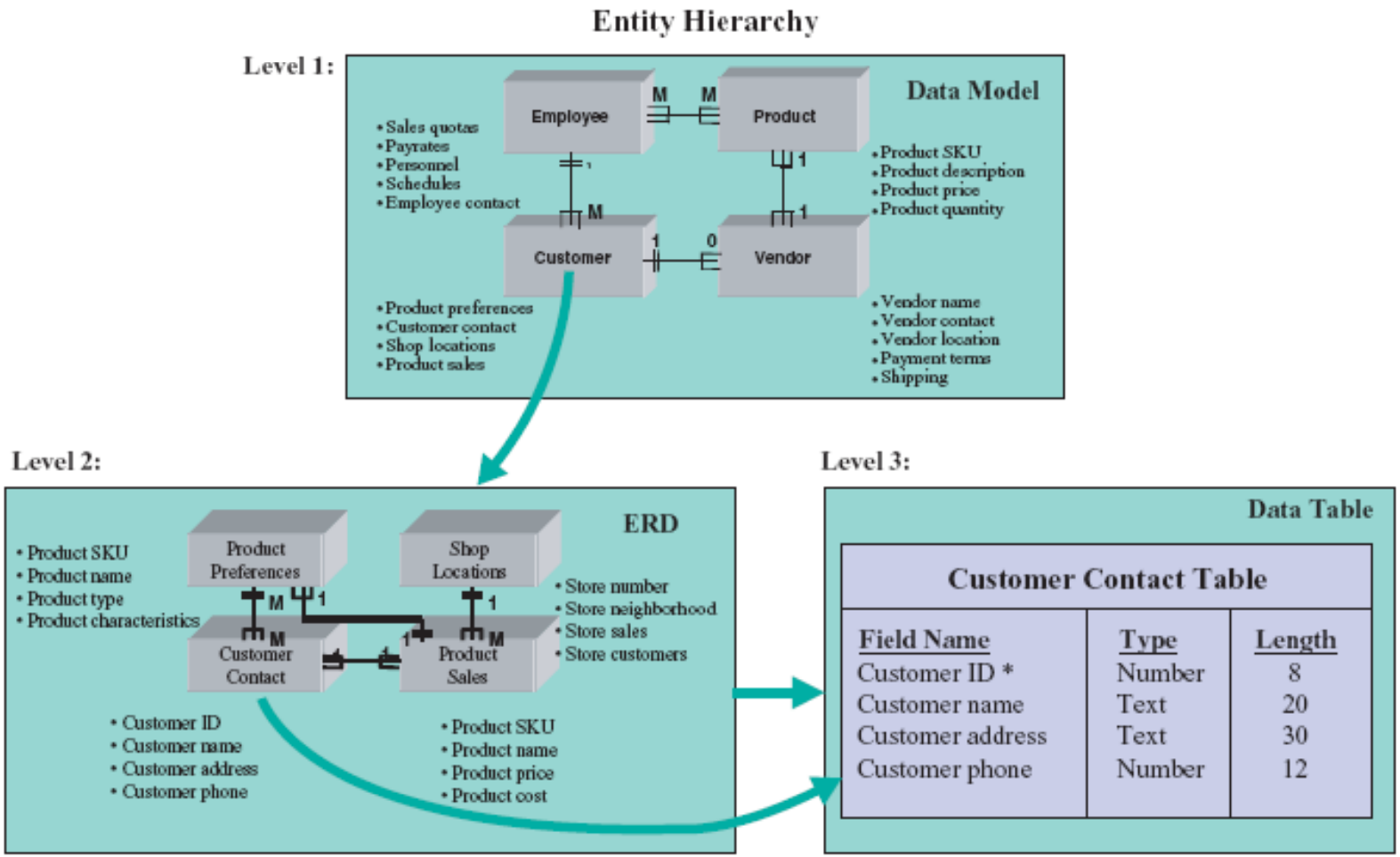
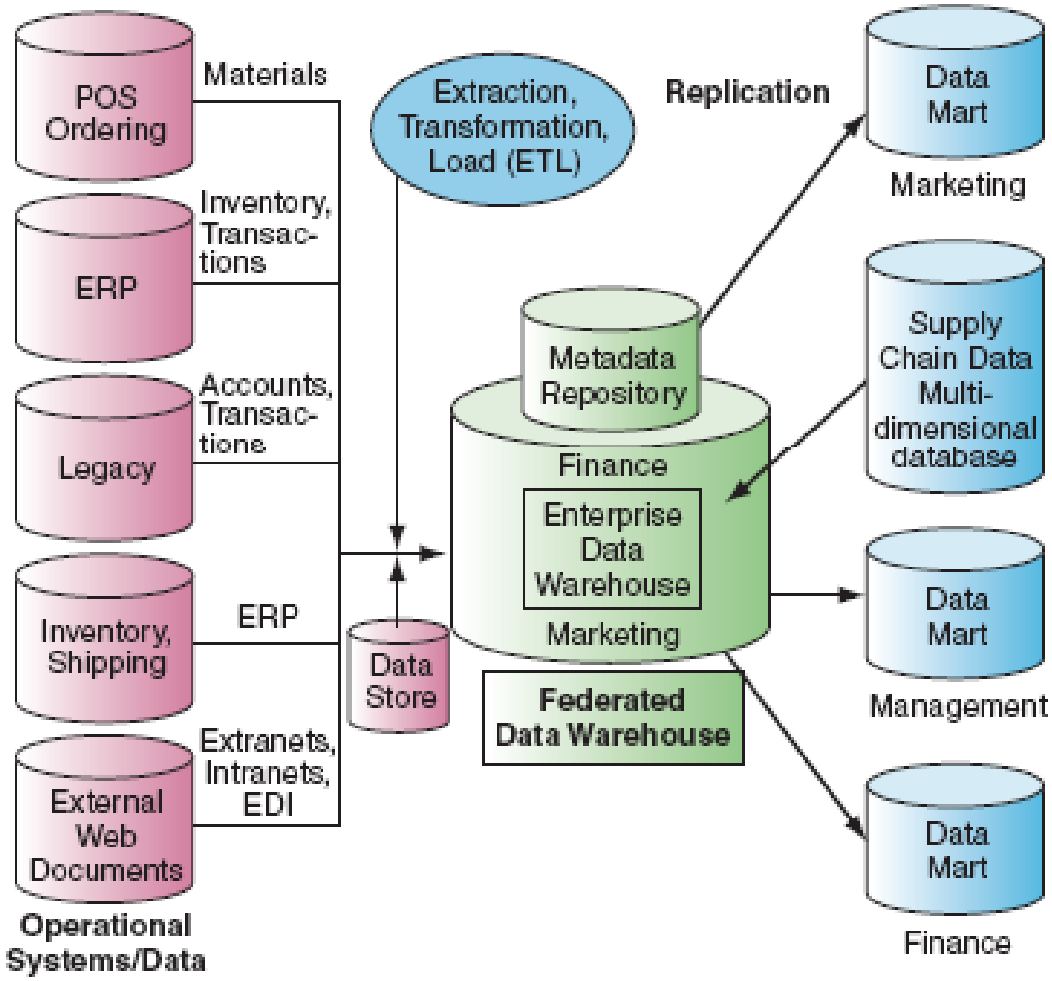


Figure 3.12 Data modeling. (*Source:* Drawn by Donald Amoroso.)

The Data Warehouse & Data Management



Web-based Data Management Systems – content and information

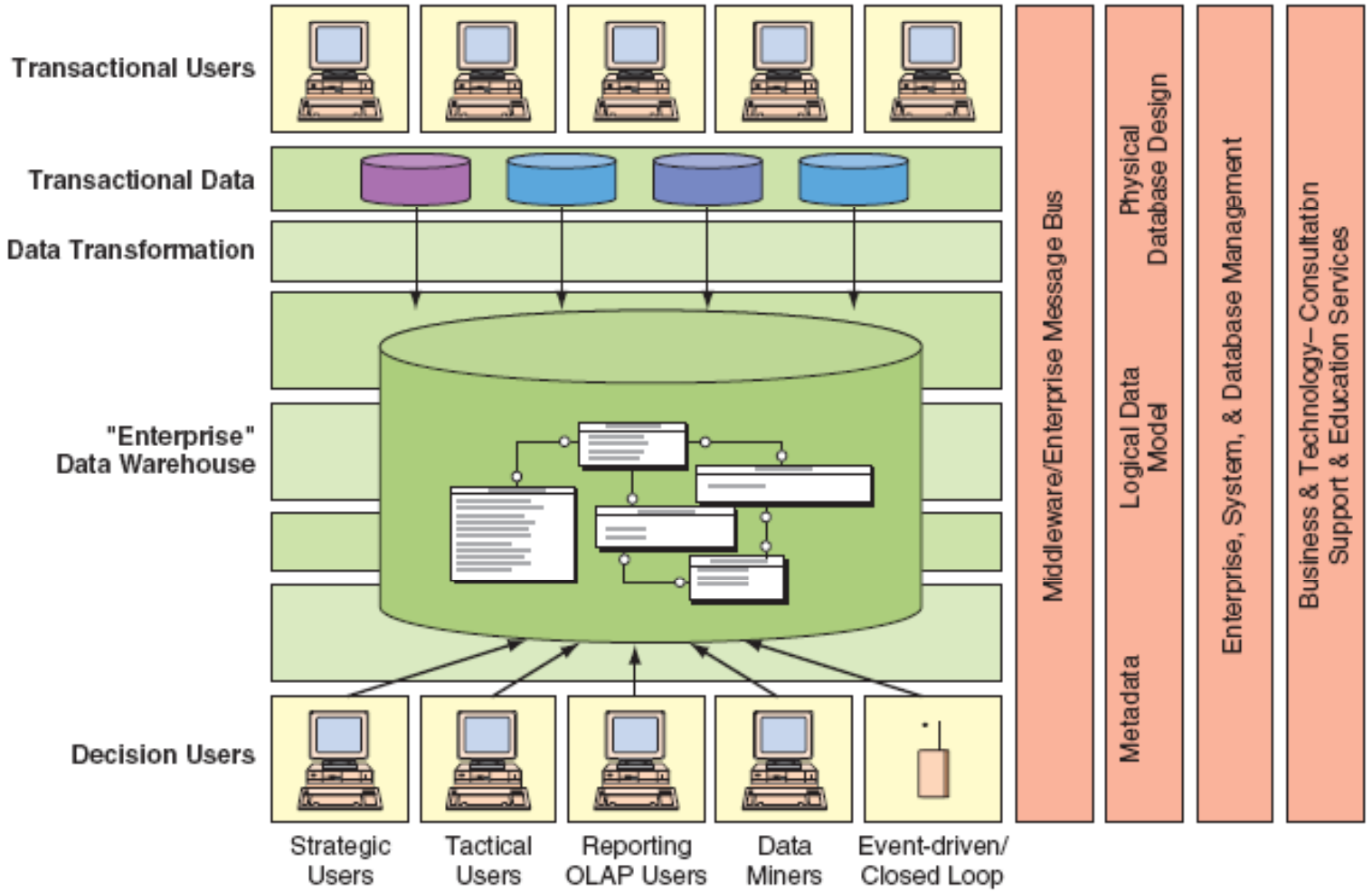


Figure 3.14 Teradata Corp.'s enterprise data warehouse. (*Source:* Teradata Corporation [*teradata.com*], with permission.)

Managerial Issues

- Cost-benefit issues and justification
- Where to store data physically
- Legal issues
- Internal or external?
- Data Delivery

Managerial Issues (Continued)

- Disaster recovery
- Data security and ethics
- Ethics: Paying for use of data
- Privacy
- Legacy Data

Chapter 3

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